What is "showing" in language?

Tommi Jantunen University of Jyväskylä

Abstract

In this squib, I discuss the issue of showing meaning in language. I consider showing to form a continuum with telling (traditional language use with lexico-grammatical units and processes) and define showing in its purest form as a way of signaling meaning through depiction. For this purpose, showing makes use of relatively gradient and non-conventional means which are not typically considered to belong to language proper. I situate showing together with telling in ontology in which language is conceived as being simultaneously a physical, cognitive and social activity on a par with other such types of activities. In mainstream linguistics, showing has been marginalized and set aside from the focus of research. However, I suggest that accepting showing as an inherent part of language and its use has, after closer empirical scrutiny, not only theoretical but also practical implications.

Keywords: language, meaning, showing, telling, ontology, sign language

1 Introduction

Ludwig Wittgenstein published his *Tractatus logico-philosophicus* one hundred years ago, in 1921. In the *Tractatus*, Wittgenstein aimed to clarify the relationship between language and the world and to explicate the boundaries of language. As the seventh and last section of the *Tractatus*, Wittgenstein (1961) wrote: Whereof one cannot speak, thereof one must be silent. In everyday interpretations, this sentence has even been understood as a moral instruction, which is misleading. What the sentence actually refers to are the limits of language, which Wittgenstein understands in the logical-positivist sense, and the range of its capabilities in delimiting and defining the phenomena found in the world. In practice, Wittgenstein concludes that there are mystical things in the world which cannot be reached meaningfully by means of speaking-based propositions defined by truth values (perhaps most importantly the propositions themselves but also, for instance, the structure of





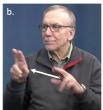






Figure 1. Examples of depicting signs (a, b) and instances of constructed action or enactment (c, d) extracted from the Corpus of Finnish Sign Language (http://urn.fi/urn: nbn:fi:lb-2019012321). Frame a) has a sign depicting the size and shape of an object ('ball'); b) depicts the autonomous motion of a single entity ('a four-legged animate object'); in c) the signer enacts the 'handling a small, flat object' with his hands as part of a larger bodily constructed action; and in d) the signer enacts the meaning 'the character is asleep under the blanket'. In the frames a—c, the white lines and arrows indicate the shape and direction of the movement(s) of the hand(s). In the frame d), there is no motion.

thinking, the meaning of emotions etc.). In the philosophy of the *Tractatus*, these things can only be "shown", which meant for Wittgenstein that they are not proper or suitable matters for philosophical debate (Glock 1996: 330).

About seventy years after the *Tractatus* was published, from theoretical underpinnings completely different from Wittgenstein's, several signed language researchers began to investigate showing - concretely, the use of pointing signs, depictive signs and constructed action (see Figure 1) - in several different signed languages (e.g. Vermeerbergen 2006). For example, in France, Christian Cuxac made a distinction between "signing with and without showing" in the analysis of French Sign Language discourse (in English, see Cuxac 1999). In the United States, Scott Liddell and Melanie Metzger (1998) drew perhaps the first parallels between showing in signed and spoken language communication in terms of constructed action. And in Australia, Dorothea Cogill-Koetz (2000) raised discussion about the nature of depicting signs in Auslan (the signed language used in Australia) as visual templates instead of highly grammaticalized word-like structures. Finally, about ninety years after Tractatus' first publication, Australian-based signed language researchers Trevor Johnston, Lindsay Ferrara and Gabrielle Hodge began to use video corpora to investigate the use of various semiotic resources in Auslan, and directly encapsulated as their main finding that in language –

171

including spoken language – meanings are conveyed not only by telling but also by showing (e.g. Ferrara & Johnston 2014; Hodge & Johnston 2014). Their view was and still is grounded strongly on the idea that linguistic utterances are multimodal composites (Enfield 2009) – aggregates whose total meaning is the sum of semiotic signals produced with different articulators. Because of how the notion of composite utterance has been applied to signed language utterances containing constructed action, the idea of showing with language (as opposed to telling with language) has subsequently spread widely in the field of signed language research (e.g. Cormier et al. 2015; Jantunen 2017; Hodge & Cormier 2019; Puupponen 2019; Beukeleers 2020).

In this squib, I discuss showing as one means of conveying linguistic meaning: What does showing entail from the point of view of an utterance (mostly resembling a word or clause-like unit in its duration) and into what kinds of internal characteristics can it be further analyzed? Further, how is showing situated within language from an ontological perspective? My ultimate motivation for this discussion may be signed language-specific but I nevertheless reflect upon the topic on a general level, also taking into account spoken languages. Dealing with the topic of showing equally in both signed and spoken languages is important not only from the point of view of deriving, on the basis of data, a unified linguistic theory (including both types of languages) but also from the point of view of future applications of the theory. Examples of the latter are, inter alia, language teaching and learning: from my personal experience I have noted that the practices of spoken language teaching and learning have traditionally ignored showing. In addition, a unified theory of language fully acknowledging and including aspects of showing could also contribute to the practices of translation and interpreting: for instance, it could be argued that utterances that show are best translated and interpreted between signed and spoken languages by means of utterances that show, not by means of those that tell.

¹ In the fall of 2021, a multimethodological research project focusing on Finnish Sign Language has been launched on the topic of constructed action and showing at the University of Jyväskylä (see https://jyu.fi/showtell). This squib is motivated by this project.

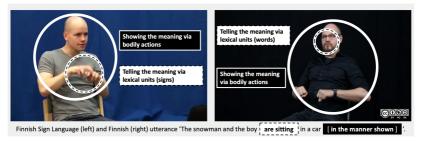


Figure 2. The Finnish Sign Language (left) and Finnish (right) utterance 'The snowman and the boy are sitting in a car [in the manner shown].' The example in Finnish Sign Language comes from ProGram data (http://urn.fi/urn.nbn:fi: lb-2016031101), and the Finnish example comes from University of Jyväskylä, Sign Language Centre (https://vk-oppimateriaali.jyu.fi).

2 Showing as a part of linguistic utterances

What does the linguistic activity characterized here as showing mean most concretely and perhaps also at its simplest? The answer to this question is demonstrated in Figure 2, which presents one video frame from an utterance produced in both Finnish Sign Language and Finnish. The meaning of the utterance in both languages is 'The snowman and the boy are sitting in a car [in the manner shown]'. In both languages, the language user articulates a lexico-grammatical unit meaning 'sit': in Finnish Sign Language this is the lexical sign SIT (bent index and middle finger of the dominant hand placed with short single movement upon straight index and middle finger of the nondominant hand), in Finnish this is the dictionary word *istua*. However, the language users do not use lexico-grammatical means to tell the manner of sitting. Instead, they express this with non-conventionalized bodily actions, including particular facial expressions and upper-torso postures. In other words, while both language users exploit lexico-grammatical units to tell or report the character's action, they also at the same time engage in physical actions to show other dimensions of the sitting activity, in particular, the manner in which the sitting is done, in their opinion.

Concerning the examples in Figure 2, it must be emphasized that, in this squib, all telling and showing activities in the two utterances are considered to be language. This does not correspond to the approach in mainstream linguistics, in which there is a clear demarcation between

linguistic communication and non-linguistic (pseudo- or paralinguistic) communication. The existing distinction (according to which only the sign SIT and the word istua are part of language in Figure 2) has its history in research on spoken languages, where it has been easily justified by reference, for example, to the difference between the oral-auditory channel and the gestural-visual channel: linguistic communication has been primarily associated with the voice, and non-linguistic communication with other bodily behaviors. However, signed language (and gesture) research has shown that bodily behaviors (other than those producing voice) can also be linguistic (but perhaps not always are, cf. fidgetting as an example), and it is therefore not feasible to rely on channel in order to make linguistic/non-linguistic distinctions (cf., Liddell 2003; see e.g. Johnston & Ferrara 2012; Ferrara & Hodge 2018). The same research has further shown that even within the gestural-visual channel it is impossible to draw a sharp line between linguistic and non-linguistic behaviors. All types of intentional, communicative action can be assigned linguistic meanings (see below), which are all necessary to understand the total meaning of the utterance. The question then becomes the following: If a clear distinction between linguistic and non-linguistic communication cannot be made in signed language, why should such a difference be made in spoken language, where the strategies used in bodily showing are the same as in signed language? Ergo: It is possible to interpret bodily showing as meaningful language in just the same way as is done with telling produced with the hands or the voice. Of course, this line of thinking is not new in spoken language research either; it has been well developed especially within subfields that focus on the interplay between speech and gesture (McNeil 1992; Kendon 2004; Enfield 2009; Streeck et al. 2011; Floyd 2016; Dingemanse 2018; Ladewig 2020).²

Based partly on the semiotic theory of Charles S. Peirce (1955), Clark (1996) presents a theory of language use in which he distinguishes three ways for a linguistic utterance to signal meaning. These are *description* (obeying a "rule" to connect the form with a referent), *indication* (locating the form

² Related to the discussion here, one reviewer asked if all manual and nonmanual behavior accompanying speech—often termed co-speech gesture – should be considered language (even if it occurs without speech)? The answer that this whole text is putting forth is 'yes' in many cases. Notable exceptions, mentioned briefly in the body text too, are perhaps many involuntary movements not occurring clearly with communicative intents of any kinds. The other argument this text is pursuing is that language cannot be fully demarcated from other types of phenomena and activities (including not only communicative but also e.g. eating dinner, dancing – i.e. all). This argument will be elaborated in later sections.

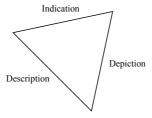


Figure 3. Linguistic utterance as a threefold combination of description, indication and depiction

to the referent spatio-temporally) and *depiction* (or *demonstration*; showing the referent through partial resemblance with the form). Following Peircean language philosophy, it can be conceived that these three ways to signify meaning are not categorically distinct but intertwined and that, from the point of view of conveying meaning, the linguistic utterance is always built to include description, indication and depiction (see also Enfield 2009; Ferrara & Hodge 2018). This threefold nature of the linguistic utterance is presented schematically in Figure 3.

From the perspective of signaling meaning, description is most purely represented with lexico-grammatical units such as signs and words that typically have representations as lexemes in dictionaries. Both signed and spoken language also describe with emblems, that is, with conventionalized cultural gestures (McNeil 1992; Kendon 2004). But not all lexemes only describe. For example, in spoken language, certain deictic elements such as pronouns have dictionary forms, but they are still best seen as units mostly exemplifying indication. In spoken language, indication is also associated with the use of manual pointings (with or without vocalization), and this is also the most common way to signal indication in signed language (direct equivalents of spoken language-type pronoun systems have not been found in signed language, see Johnston 2013a; 2013b). In signed language, indication is also strongly present in multidirectional content signs (i.e., indicating signs other than pointings), in which part of the meaning emerges contextually via directing these signs toward abstract or concrete referents (e.g. Liddell 2003; Jantunen 2018). Users of signed and spoken languages also indicate with different body movements and postures, such as with head nods and torso leans (e.g. Enfield 2009; Ferrara & Hodge 2018; Puupponen 2019).

Signaling meaning with indication is one dimension of showing. However, content-wise, signaling meaning with depiction is often a more effective, and it is at least a more typical, way of showing. Many strategies and elements which emphasize depiction are channel-dependent: onomatopoetic words (e.g. Dingemanse 2018) or prosodic alternations of words (e.g. Clark 1996; Okrent 2002) are examples of units and ways in which depiction can be done with the voice. Strongly iconic depicting signs or iconic modifications in the movements of signs are, in turn, examples of the same in signed language (e.g., Ferrara & Halvorsen 2017; see Figure 1). But more generally, when meaning is signaled with depiction, there are fewer differences between signed and spoken languages: in both channels depictive utterances are produced frequently and with movements and postures of the body and the face. This is precisely what is shown in Figure 2.

Description, indication and depiction are present in all utterances in one way or another (e.g. Beukeleers 2020) but, as has been hinted above, some utterances give priority to and emphasize one of the three ways to signal meaning. These prioritizations and emphases form utterance (word/sign, clause; process) prototypes which, in accordance with Peirce's original theory, can be classified into symbols (utterances emphasizing description), indices (utterances emphasizing indication) and icons (utterances emphasizing depiction) (see Clark 1996). Some (e.g., Beukeleers 2020) have argued that thinking of utterances as such prototypes is an oversimplification of the complex process of signaling meaning. However, on the other hand, we might find that it has its benefits, for example, in demonstrating the similarities and differences between signed and spoken language on the level of both units and processes, some of which are illustrated in Figure 4.

In addition, Figure 4 also underscores the continuum-like relationship between showing and telling, where the showing end of the continuum emphasizes depiction as the main means of signaling meaning. Figure 4 also shows that the differences between signed and spoken languages at this showing end of the continuum are reduced to a minimum – or even virtually disappear in some respects. The idea behind this can be easily captured by considering the Finnish Sign Language examples in Figure 1 from the point of view of spoken language: in an appropriate context, each of the four examples (a–d) could be manifested also in the language use of a non-signing person.

	TELLING	
Signed language • Signed lexemes (e.g. DOG, SIGN); emblems	Descriptions (symbols)	Spoken language • Spoken lexemes (e.g. dog, talk; emblems)
Person and location denoting pointings		Spoken lexenies (e.g. <i>aog</i> , <i>taik</i> , emblenis) Pronoun words
Other pointing signs (incl. verbs)	Indications (indices)	Manual pointings
• Depictive signs; with modified movement		Onomatopoetic words; iconically modified prosody
• Depictive gestures	Depictions	Depictive gestures
Enactment	(icons)	• Enactment
Gesticulation	\downarrow	Gesticulation
	SHOWING	

Figure 4. Differences and similarities between signed and spoken language set on a continuum between telling and showing. Each row presents comparable units or processes. Note that all units and processes are best analysed as composites of all three signaling methods. In the figure, "enactment" corresponds to the phenomenon of "constructed action". It should be noted that the border between depicting signs and depicting gestures is extremely fuzzy, perhaps even artificial (see Liddell & Metzger 1998; Johnston & Ferrara 2012).

3 Toward the place of showing in ontology

Regardless of how the meaning is signaled in an utterance, the utterance is always a combination of form and meaning. However, the connection between the form and the meaning can vary in several ways, two of the most important of which from the point of view of showing are, it has been claimed, *categoriality* and *conventionality* (see Clark 1996; McNeil 2000; Wilcox & Xavier 2013; Jantunen 2017).

To use general linguistic terminology (e.g. Karlsson 1994), a categorical form—meaning relationship refers to the one form, one meaning relationship in a linguistic sign. More precisely, categoriality means that both the form and the meaning are discrete and determined in their parts. A simplified example of the categorical form—meaning relationship is the fact that the invariant word-form *cat* and the sign CAT always denote the referent 'cat'. Categoriality is a very prominent characteristic of telling in general and of description in particular (cf. Peircean symbols). The opposite of categoriality is *gradience*. Again, in general terminology, a gradient form—meaning relationship can be characterized as a relationship of many forms, many meanings. More precisely, gradience is about fuzziness and the indeterminacy of both the form and the meaning (cf. Liddell 2003). In practice this means *ad hoc* variability of the form and the meaning, captured by the example that the

language-specific forms for "cat" can denote 'cat", 'violin' and 'table' without any real pre-existing agreement. The gradience of the form and meaning is emphasized in showing in general and in depiction in particular (cf. Peircean icons).

The above example on gradience contains a seed of the ridiculous because of the paradox that the forms for "cat" can refer to 'violin' and 'table'. However, this is exactly what happens in showing. For example, the movements and postures of the body and face of the signer and speaker in Figure 2 are variant and different in their basic nature (cf. "cat") but still both refer to the (manner of the) same 'sitting activity of the boy' in the story that is being told. In some other story or context, these same forms could mean something else, for example 'the way a vase is placed on the table' or 'how the language user himself is walking on the street' (cf. meanings 'violin' and 'table'). It must be added though that the connection of forms and meanings can never fully be free and that it is reasonable to expect at least some kinds of conventions in connecting the two even in the most gradient expressions.

To say that the form-meaning relationship of an utterance is conventional means that the way the utterance is used by one individual conforms to the way other individuals use the same utterance. Technically the convention – an unspoken social agreement – is that everyone knows x and everyone knows that everyone knows x (Clark 1996; the technical form of the convention can also be expressed with the help of three conceptual levels, that is, I know that you know that I know x, e.g., Itkonen 1997). The conventional link between the form and the meaning is the foundation of telling and language use based on description. The opposite of conventionality is non-conventionality (for lack of a better term). To say that the form-meaning relationship is non-conventional means that the way an utterance is used by one individual does not conform to the usage of others. Technically this is the negation of the previous positive proposition (cf. no one knows x and no one knows that no one knows x). The non-conventionality of the form–meaning link – or at least the lack of strong conventions – is a characteristic of showing and language use based on depiction.

Categoriality and gradience on the one hand and conventionality and non-conventionality on the other do not define utterances in an either-or or binary manner. Rather, in previous research (e.g. McNeil 2000; Jantunen 2017), they have been conceptualized as forming continua of their own. The reasons for this type of thinking are undoubtedly many. One is very likely the fact that utterances can never be classified into purely describing, indicating

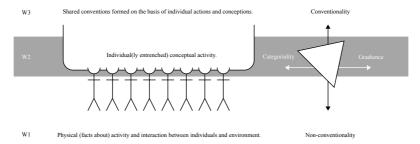


Figure 5. Schematic representation of Popper's three-world ontology (left) and the place of linguistic utterances in it (right)

and depicting types (i.e., even symbols, indices and icons only emphasize these ways of signaling meaning). This general elusiveness in utterances causes their form—meaning relationships to be elusive and continuum-like, too. Another reason is probably the fact that it is practically impossible to find either a truly categorical/gradient or a truly conventional/non-conventional form—meaning relationship in a natural language. Thus, the idea of purely categorical or gradient and conventional or non-conventional utterances is theoretical (in computer language the situation would be different).

Many utterances which can be defined as categorical (e.g., tokens of lexical words and signs) can also be defined as being conventional (i.e., they are Peircean symbols). Similarly, many utterances which are defined as gradient (e.g., tokens of depicting signs and onomatopoetic words, depicting gestures, enactment) are also non-conventional (cf. Peircean icons). However, this does not mean that the continua of categoriality and conventionality are mutually aligned and exist on the same ontological level. Rather, it is possible to think (e.g., Jantunen 2017; Jantunen et al. 2020) that the continuum of categoriality is primarily attached to the individual and exists as a part of the individual's cognitive reality. The continuum of conventionality, on the other hand, is positioned with respect to both the momentary actions and behaviors of individuals as well as the norms maintained by groups of individuals. This way of thinking is based on Popper's three-world ontology (Popper & Eccles 1977), a schematic representation of which is presented in Figure 5.

Popper's three dimensions of existence are the world of states and processes on the level of physical facts (W1 in Figure 5), the world of mental

states and processes on the level of cognitive schemas (W2) and the world of the socially shared products of individual (physical and) mental activities (W3). In W1 there exists all the physical reality which may be measured and analyzed, for example, in terms of atoms and molecules. W2, in turn, is our inner world which includes, for example, our individually varying experiences of feelings and emotions. Finally, W3 contains everything we share and which is not dependent of our individual existence. The classical example is the concept of a unicorn which has no physical counterpart. W1 is the foundation of all existence and W2 and W3 are dimensions of "being" that have emerged out of W1 (and W2, obviously). In the context of time, W3 and W2 affect back to W1, although the content of W3 and W2 cannot be accurately reduced to the same physical facts of W1 from which they may have originated (cf. the unicorn). Traditionally, language has been seen as a phenomenon operating at the interface between W2 and W3, in which case it is identified mostly as de Saussure's (1959) langue, an abstract, socially shared language system. The actual individually varying form of language – de Saussure's parole, the executive part of the communicative circuit in which psychological concepts are mapped to concrete physical units on an individual level – has been identified as operating at the interface between W1 and W2. However, in this squib, language has been defined as a wider phenomenon than has traditionally been assumed, and seamlessly covers all three worlds. In this sense, language is identifiable mostly as de Saussure's language, the totality or even the "chaos" of linguistic reality (cf. Nyman 1995).

One consequence of this view of language is that it cannot be demarcated from other types of individual and social activities that we contemplate and carry out in the real world (see also Keller 1994). In other words, according to this view, it is not possible to say where language begins and where it ends. In fact, language, as a concept, itself is best treated as an instance of family resemblance, as introduced by Wittgenstein in his *Philosophical investigations* (1967). We are all familiar with the core meaning of language but nevertheless we use the concept differently, even under different pressures (e.g., tradition, politics etc.), to cover different aspects of reality. In this squib, language has been approached relatively broadly and the concept has been extended to include bits of reality traditionally dealt with in the context of communication studies.

Another consequence of this broader view of language is that there is a constant link between *in situ* physical actions and activities performed by individuals and their more abstract conceptualizations. According to

the ontological stance, this is a feature of existence that eventually makes it possible to show meanings. In Figure 5, an utterance that shows is positioned prototypically between W1 and W2. In W1, it is represented as a concrete but isolated form of meaning-making activity and in W2, as a momentary and gradient conceptual linkage of form and meaning. A prototypical utterance that shows does not reach as far as W3, because it is definitionally non-conventional. On the other hand, an utterance that tells also exists in W3, because of its conventionality and so forms a part of the shared reality of the group. Obviously, an utterance that tells has a similar connection to W1 as one that shows, but in W2 the telling utterance occupies the more discrete and determined end of the categoriality continuum.

4 Conclusion

In this squib I have focused particularly on showing as one means of conveying linguistic meaning. Traditionally, linguistics has focused on *langue*, thus marginalizing the connections that meaning making has in concrete activity and physical facts. This approach has had its roots in the attempt to define the object of the study as accurately as possible but at the same time the approach has resulted in overemphasizing the role that telling has in language, both signed and spoken. This has led some to suggest that signed and spoken languages are very different. Such a strong claim is clearly visible, for example, in the fact that linguistic textbooks, as a rule, only discuss spoken (and written) language. Only after showing has been included in the conception of language has it been possible to make fruitful generalizations concerning the similarities and differences between signed and spoken languages.

I have defined showing, at its purest, as a way of depicting meaning by relying on relatively gradient and non-conventional bodily actions in the construction of the Peircean icon. Its opposite, telling, I have in turn defined, at its purest, as a way of describing meaning by relying on relatively categorical and conventional units such as lexical signs and words, i.e., Peircean symbols. Both showing and telling have their place in an ontology where language is seen as simultaneously a physical, cognitive and social activity, connected seamlessly to other such activities.

The present review of showing has been philosophical, even conceptually analytical. However, in order to truly understand the phenomenon of

showing, it must also be approached empirically, by measurements. After our theoretical understanding of showing has been backed up with enough empirical evidence, we are expecting that it will be possible to start to extend the new knowledge we have gained also to the more applied fields of language studies, like teaching, learning, translating, and interpreting.

Acknowledgements

This squib has been greatly motivated by presentations and discussions that took place in the Depiction Seminar organized by Niina Lilja at the University of Tampere, Finland, in October 2021. The author is indebted to Eleanor Underwood for the help of making the English of the text as readable as possible. In addition, the author wishes to thank Danny De Weerdt, Jarkko Keränen, Mika Lähteenmäki, Minna Suni and Urho Määttä for discussions on the topic. Moreover, the author wishes to acknowledge the all the pleasant discussions he has had about the content of the squib with Gabrielle Hodge, Lindsay Ferrara, Anna Puupponen and Sébastien Vandenitte. The text is part of the project *ShowTell – Showing and telling in Finnish Sign Language*, funded by the Academy of Finland under grant 339268.

References

- Beukeleers, Inez. 2020. On the role of eye gaze in Flemish Sign Language: A multifocal eye-tracking study on the phenomena of online turn processing and depicting. KU Leuven: University of Leuven, Antwerp. (Doctoral dissertation).
- Clark, Herbert. 1996. Using language. Cambridge: Cambridge University Press.
- Cogill-Koez, Dorothea. 2000. Signed language classifier predicates: Linguistic structures or schematic visual representation? *Sign Language & Linguistics* 3(2). 153–207. DOI: 10.1075/sll.3.2.03cog.
- Cormier, Kearsy & Smith, Sandra & Sevcikova-Sehyr, Zed. 2015. Rethinking constructed action. *Sign Language & Linguistics*, 18. 167–204.
- Cuxac, Christian. 1999. The expression of spatial relations and the spatialization of semantic representations in French Sign Language. In Fuchs, Cathérine & Robert, Stéphane (eds.), *Language diversity and cognitive representations*, 123–142. Amsterdam: John Benjamins.
- Dingemanse, Mark. 2018. Redrawing the margins of language: Lessons from research on ideophones. *Glossa: A journal of general linguistics* 3(4). DOI: 10.5334/gjgl.444.

- Enfield, Nick. 2009. The anatomy of meaning: Speech, gesture, and composite utterances. Cambridge: Cambridge University Press.
- Ferrara, Lindsay & Halvorsen, Rolf Piene. 2017. Depicting and describing meanings with iconic signs in Norwegian Sign Language. *Gesture* 16. 371–395.
- Ferrara, Lindsay & Hodge, Gabrielle. 2018. Language as description, indication and depiction. *Frontiers in Psychology* 9(716). DOI: 10.3389/fpsyg.2018.00716.
- Ferrara, Lindsay & Johnston, Trevor. 2014. Elaborating who's what: A study of constructed action and clause structure in Auslan (Australian Sign Language). *Australian Journal of Linguistics* 34. 193–215.
- Floyd, Simeon. 2016. Modally hybrid grammar? Celestial pointing for time-of-day reference in Nheengatú. *Language* 92. 31–64.
- Glock, Hans-Johann. 1996. A Wittgenstein dictionary. Oxford: Blackwell.
- Hodge, Gabrielle & Cormier, Kearsy. 2019. Reported speech as enactment. *Linguistic Typology* 23. 185–196. DOI: 10.1515/lingty-2019-0008.
- Hodge, Gabrielle & Johnston, Trevor. 2014. Points, depictions, gestures and enactment: Partly lexical and non-lexical signs as core elements of single clause-like units in Auslan (Australian Sign Language). Australian Journal of Linguistics 34. 262–291.
- Itkonen, Esa. 1997. The social ontology of linguistic meaning. In SKY 1997: The yearbook of the Linguistic Association of Finland, 49–80.
- Jantunen, Tommi. 2017. Constructed action, the clause and the nature of syntax in Finnish Sign Language. *Open Linguistics* 3. 65–85.
- 2018. Viittomakielet hybridisysteemeinä: Hämärärajaisuus ja epäkonventionaalisuus osana viittomakielten rakennetta [Sign languages as hybrid systems: Gradience and unconventionality as a part of the structure of sign languages]. *Puhe ja kieli* 38. 109–126.
- Jantunen, Tommi & De Weerdt, Danny & Burger, Birgitta & Puupponen, Anna. 2020.
 The more you move, the more action you construct: A motion capture study on head and upper-torso movements in constructed action in Finnish Sign Language narratives. Gesture 19, 72–96.
- Johnston, Trevor. 2013a. Formational and functional characteristics of pointing signs in a corpus of Auslan (Australian Sign Language): Are the data sufficient to posit a grammatical class of 'pronouns' in Auslan? *Corpus Linguistics and Linguistic Theory* 9. 109–159. DOI: 10.1515/cllt-2013-0012.
- 2013b. Towards a comparative semiotics of pointing actions in signed and spoken languages. *Gesture* 13. 109–142.
- Johnston, Trevor & Ferrara, Lindsay. 2012. Lexicalization in signed languages: When is an idiom not an idiom? In Rundblad, Gabriella & Tytus, Agnieska & Knapton, Olivia & Tang, Chris (eds.), Selected papers from UK-CLA Meetings, Vol. 1, 229–248.

- Karlsson, Fred. 1994. *Yleinen kielitiede* [General linguistics]. Helsinki: Yliopistopaino.
- Keller, Rudi. 1994. *On language change: The invisible hand in language*. London: Routledge.
- Kendon, Adam. 2004. Gesture: Visible action as utterance. Cambridge University Press.
- Ladewig, Silwa. 2020. Integrating gestures: The dimension of multimodality in Cognitive Grammar. Berlin: De Gruyter Mouton.
- Liddell, Scott. 2003. *Grammar, gesture, and meaning in American Sign Language*. Cambridge: Cambridge University Press.
- Liddell, Scott & Metzger, Melanie. 1998. Gesture in sign language discourse. *Journal of Pragmatics* 30. 657–697.
- McNeil, David. 1992. *Hand and mind: What gestures reveal about thought.* Chicago: University of Chicago Press.
- 2000. Language and gesture. Cambridge: Cambridge University Press.
- Nyman, Martti. 1995. Saussure, langue ja kielitodellisuuden kaaos [Saussure, langue and the chaos of linguistic reality]. *Tiede & Edistys* 20(4). DOI: https://doi.org/10.51809/te.104417.
- Okrent, Arinka. 2002. A modality-free notion of gesture and how it can help us with the morpheme vs. gesture question in sign language linguistics (or at least give us some criteria to work with). In Meier, Richard P. & Cormier, Kearsy & Quinto-Pozos, David (eds.), 175–198. Cambridge: Cambridge University Press.
- Peirce, Charles Sanders. 1955. *Philosophical writings of Peirce*. New York: Dover Publications.
- Popper, Karl & Eccles, John. 1977. The self and its brain. Berlin: Springer-Verlag.
- Puupponen, Anna. 2019. Towards understanding nonmanuality: A semiotic treatment of signers' head movements. *Glossa: A journal of general linguistics* 4(39). DOI: 10.5334/gjgl.709.
- Saussure, Ferdinand de. 1959. Course in general linguistics. New York: McGraw-Hill.
 Streeck, Jürgen & Goodwin, Charles & LeBaron, Curtis (eds.). 2011. Embodied interaction: Language and body in the material world. Cambridge: Cambridge University Press.
- Vermeerbergen, Myriam. 2006. Past and current trends in sign language research. Language and Communication 26(2). 168–192.
- Wilcox, Sherman & Xavier, André Nogueira. 2013. A framework for unifying spoken language, signed language and gesture. *Revista Todas as Letras* 15. 88–110.
- Wittgenstein, Ludwig. 1961. *Tractatus logico-philosophicus*. Routledge & Kegan Paul.
- 1967. Philosophical investigations. Oxford: Blackwell.

Contact information:

Tommi Jantunen Sign Language Centre Department of Language and Communication Studies P.O. Box 35 (A) 40014 University of Jyväskylä

Finland

E-mail: tommi(dot)j(dot)jantunen(at)jyu(dot)fi